AFM 1-5

AIR FORCE MANUAL

AIR DOCTRINE

AIR OPERATIONS IN CONJUNCTION WITH AMPHIBIOUS OPERATIONS

1 APRIL 1954

DEPARTMENT OF THE AIR FORCE

AIR DOCTRINE

AIR OPERATIONS IN CONJUNCTION WITH AMPHIBIOUS OPERATIONS

1 APRIL 1954

DEPARTMENT OF THE AIR FORCE

AIR FORCE MANUAL
No. 1–5*

DEPARTMENT OF THE AIR FORCE
WASHINGTON, *1 April 1954*

Foreword

1. *Purpose and Scope.* The primary purpose of this Manual is to delineate the doctrine and principles pertaining to the responsibilities, functions, tasks, organization, command, control, and employment of air forces in conjunction with amphibious operations. The Manual will provide guidance for air planning and operations associated with an amphibious operation. It will also be used by instructors and students of air operations.

2. *Contents.* This Manual stems directly from the USAF Basic Doctrinal Manual, AFM 1–2, and from the Theater Air Operations Manual, AFM 1–3. It presents the Air Force doctrine particularly pertinent to amphibious operations, and sets forth the basic considerations for the employment of air forces as a significant participant under unified command in conjunction with amphibious operations.

3. *Dynamic Nature of Doctrine.* The doctrine set forth in this Manual deals with fundamentals and principles which have been tested and proved. The United States Air Force in conjunction with the Allied Air Forces carried out the major air effort in almost all of the large-scale invasions of World War II. The guiding principles of this war, modified and revised to keep in consonance with the present and future weapons of war and concepts for their employment, form the basis of this Manual.

BY ORDER OF THE SECRETARY OF THE AIR FORCE:

N. F. TWINING
Chief of Staff, United States Air Force

OFFICIAL:

K. E. THIEBAUD
Colonel, USAF
Air Adjutant General

This Manual contains no copyright material.

*This Manual supersedes AFM 1–5, 1 September 1953, including Change 1–5A, 15 January 1954.

DISTRIBUTION:

Zone of Interior and Overseas:	
Headquarters USAF	250
Major air commands	20
except Air University	5, 000
Air Force officers on active duty with the regular establishment	1
Miscellaneous:	
Chief of Naval Operations	150
Chief of Staff, U. S. Army (Wash AG Pubs Depot, Cameron, Va.)	150
Chief, Armed Forces Special Weapons Project	3
Air Force Reserve Units	5
Air National Guard Units	5
MAAG's	1
Air Attaches	1
Headquarters, Civil Air Patrol	65
Senior Air Force Representatives:	
Joint Amphibious Board	5
Joint Landing Force Board	5
Joint Tactical Air Support Board	5
Joint Air Transportation Board	5
Joint Air Defense Board	5

Contents

	Paragraph	Page
Chapter 1. Introduction		
Brief History	1	1
The Amphibious Operation and Its Relation to the Theater	2	1
The Amphibious Operation and Its Relation to Theater Air Operations	3	1
Airborne Operations in Conjunction with Amphibious Operations	4	2
Amphibious Operations	5	2
Amphibious Operations—Purposes and Types	6	3
Impact of Mass Destruction Weapons	7	4
Chapter 2. Functions and Forces		
Section A. Functions of Air Forces Operating in Conjunction With Amphibious Operations		
General	1	5
Counter Air	2	5
Interdiction	3	6
Reconnaissance	4	6
Close Air Support	5	6
Deception and Diversion	6	7
Support of Covert Activities	7	7
Other Air Operations	8	7
Section B. Air Forces		
General	9	8
Determination of Force Requirements	10	8
Requirements versus Availabilities	11	8
Chapter 3. Air Planning for Amphibious Operations		
General	1	9
Initial Concept of the Operation	2	9
Planning Sequence	3	9
Contents of the Air Plans	4	9
Planning Considerations	5	10
Intelligence Planning	6	10
Logistics Planning	7	10
Communications Planning	8	10
Chapter 4. Command and Control of Air Forces When Operating in Conjunction With Amphibious Operations		
Unified Command	1	11
Amphibious Task Force	2	12
Direction and Control of Air Forces	3	12

Chapter 5. Air Operations in Conjunction With Amphibious Operations

	Paragraph	Page
Pattern of Air Operations	1	13
Counter Air Operations	2	13
Interdiction by Air Operations	3	14
Reconnaissance Operations	4	14
Close Air Support Operations	5	15
Support of Covert Activities	6	15
Airlift Operations	7	15
Search and Rescue Operations	8	15
Psychological Warfare Operations	9	15

Appendix A. Typical Theater Command Structure Applied to Amphibious Operations ----- 17

Appendix B. Typical Joint Force Command Structure Applied to Amphibious Operations ----- 18

Chapter 1

INTRODUCTION

1. Brief History

Amphibious operations date back to the earliest periods of history; however, it was not until World War II that amphibious operations developed into major, large-scale operations requiring significant, coordinated efforts of the three military services. At this point in military history, air power emerged as a predominant factor in military operations. Air power was the key to the success of the great Allied invasions of 1944. The Allied attacking forces were provided with a large degree of assurance of success once air supremacy was gained and maintained. Without air supremacy large-scale invasions were infeasible to conduct as the enemy then held the balance of military power. Operation OVERLOAD, the invasion of Normandy, included the largest and most complex amphibious operation of World War II. All planning for this operation, as well as the other major invasions of the war, established air supremacy as the main prerequisite for the success of the operation. Air supremacy was brought about in various ways: By counter air operations against airplanes in flight and on the ground, against airfields, airframe and engine plants; and by destruction of oil and other associated industries. All these highly related tasks culminated in one net result—destruction of the enemy's air capability. Yet, the air mission does not terminate with this condition. Vitally important to the success of the initial landing and to the breakout from the beachhead are such tasks as interdiction, close air support, and reconnaissance.

2. The Amphibious Operation and Its Relation to the Theater

Theater operations are conducted from established geographical areas and consist of a series of integrated and coordinated actions designed to create specific effects which will fulfill the theater role in global strategy. The nature of these operations is determined by the objectives which they are designed to achieve, the nature of the forces which engage in them, and the conditions under which they are conducted. An amphibious operation is but one of many related surface operations conducted within a theater.

3. The Amphibious Operation and Its Relation to Theater Air Operations

a. The efforts of the air forces in a theater are performed in furtherance of the overall theater objectives. The results of these efforts enable the theater commander to determine the feasibility of initiating an amphibious operation.

b. The theater air effort is not radically different during the amphibious phase; it is only that a greater percentage of the theater air effort may be used to aid the amphibious forces during this period when the ground forces are without their organic supporting arms.

c. There is no distinct line of demarcation between the normal theater air operations and air operations conducted in conjunction with amphibious operations, or between the amphibious operation and subsequent activities. The only major difference is that the air command and control facilities generally

are afloat during the first few days of the operation prior to being established ashore in the objective area. Air forces do not require the highly specialized amphibious units and equipment that are peculiar to invading ground forces and supporting naval forces.

d. Air forces participate in conjunction with amphibious operations.

4. Airborne Operations in Conjunction With Amphibious Operations

Airborne and troop carrier forces are primarily theater of operations forces. Plans for their employment must be initiated by the headquarters having authority to direct the coordinated action of all air, land, and naval forces in the theater. This responsibility should not be delegated to lower headquarters, since positive and complete coordination can be accomplished only by the headquarters commanding all elements. Ordinarily, the channels of command will be those prescribed for routine operations within the theater. During the planning and execution stages of air-ground-naval operations, liaison should be actively and continuously maintained by all commanders and staffs concerned. Airborne operations generally are employed in close coordination with other ground, air, or naval operations. The general objectives are to attack, seize, and hold important objectives, to exploit the initial airborne assault, and to occupy areas or reinforce units beyond the immediate reach of other ground forces. Airborne forces are employed in such a manner that an early link-up between the airborne and amphibious ground force is practical. This early link-up type operation involves landing in the rear of the enemy lines in which—

a. The enemy rear is attacked to assist a landing or break-through by the amphibious ground forces. (Example: The airborne attack during the Normandy invasion on 6 June 44.)

b. Movement of enemy reserves is blocked or delayed by capturing and holding critical terrain features, thereby isolating the immediate battle area. (Example: The airborne operation in Southern France on 14 Aug 44.)

c. Important tactical localities are seized and held in conjunction with or pending arrival of the amphibious ground forces.

5. Amphibious Operations

a. An amphibious operation is an attack launched from the sea by naval and ground forces embarked in ships or craft, and involving a landing on a hostile shore.

b. Success in an amphibious operation usually involves a combination of tactical surprise, speed, and mass. The dominant characteristic is shock—the ability to concentrate a balanced force and to strike a selected point in the hostile defense system with overwhelming strength.

c. An amphibious operation does not differ radically from other operations except that a movement over water is involved. Consequently, the assaulting troops and equipment are dependent entirely upon sealift to the objective areas. This mode of transportation indicates that some of the forces be specialized and highly trained. Some of the equipment likewise must be highly specialized.

d. The relatively concentrated areas of action in which amphibious operations are conducted do not always permit the full exploitation of the flexibility of surface tactics and maneuver. Neither can the supporting arms of the assaulting ground force be employed with normal effectiveness until the troops are established ashore in normal combat positions. Limitations may be imposed to various degrees by unfavorable weather, visibility, sea, surf, inland roads, coastline features, and the adequacy of landing beaches. These circumstances are considered carefully in the training of forces for a particular operation and in the preparation of operational plans.

e. The success of an amphibious operation depends vitally on detailed intelligence information on the enemy forces and the objective areas. The intelligence information generally is obtained through photo intelligence and espionage.

f. All of the mutually dependent operations against the enemy's air, ground, and naval forces are closely coordinated. These operations include the protection of assembly areas, of the movement of forces to the objective area, and of the beachhead. An amphibious operation contains a critical period—the main assault, which depends upon an exceedingly high degree of coordination of air, ground, and naval effort.

g. The timely exploitation of air superiority established by theater air forces is essential to the success of the assault on the beachhead. Generally, an operation also will require air and naval bombardment of the objective area; superiority over enemy naval forces and ground forces; interdiction of the objective area; naval combat support of the ground forces before, during, and after the assault phase; and close air support during and after the assault phase.

h. Communications and control facilities must be integrated to insure adequate and proper control and coordination of the forces in order to produce total maximum effectiveness of the participating forces.

i. Adequate air and naval logistics support must be provided for the forces ashore. Initially, the forces ashore are dependent altogether on these means for supply and resupply.

j. Available amphibious shipping space is extremely limited.

6. Amphibious Operations—Purposes and Types

a. *Purposes.* Amphibious operations are conducted for the following purposes:

(1) To seize and secure a beachhead from which to initiate major land operations.

(2) To seize and secure an area for use in connection with other military operations, including the establishment of air and/or naval bases.

(3) To seize and secure an area and deny its use to the enemy.

(4) To destroy enemy forces, installations, and facilities.

b. *Related Operations.* Related operations also are performed. These have some of the characteristics of an amphibious operation but do not necessarily involve the attack and capture of a position on shore. Normally, these operations are carried out on a lesser scale. They include demonstrations, raids, and withdrawals from hostile shores. Amphibious operations generally are classified according to the purpose for which they are undertaken.

c. *Invasions.* The basic form of the amphibious operation is invasion. It involves a major effort of all theater components. Its purpose is either to establish a lodgment area from which to conduct further operations, or to seize and occupy an area to deny its use to the enemy. The amphibious phase in this type of operation is only the forerunner of further air, ground, and naval actions, although the amphibious operation may be terminated by the theater commander once the lodgment area is deemed secure and all logistic support to the attacking forces is assured. Further operations to be conducted from this lodgment area may be air operations from captured air fields, ground operations against other enemy forces and fortifications after a breakout from the lodgment area is effected, or further naval operations after enemy naval facilities are captured or new facilities are erected in the objective area.

d. *Raid.* The purpose of a raid may be to gain information or to harass or destroy enemy forces and installations in a specified area. The objectives and the employed forces are of a limited nature and withdrawal of the forces is always contemplated. The operation is of a temporary nature and does not necessarily entail all the various tasks of the invasion type operation.

e. *Demonstration.* The purpose of a demonstration is to deceive the enemy and to make him divert his forces. This is accomplished by feinting at or striking an area other than the intended landing area. The show of force may be either air, ground, or naval, or a combination of these. Air actions may be carried out against targets in an area in which no amphibious operations are to be conducted. Thereby, the enemy may be deluded into thinking that the area under attack is the place of intended landing. Naval and ground actions may include naval gunfire into a false landing area, the lowering of landing craft and feinting toward a beachhead, the actual landing on a shore other than the intended place of landing, and the raiding of this same area. The net effects of deceptive actions are usually much greater when they are planned and conducted in conjunction with an invasion.

f. *Withdrawal.* A withdrawal may be a planned action to redeploy forces or it may become necessary during an unsuccessful invasion to evacuate forces. An unplanned setback on the beachhead may dictate that our forces be withdrawn to prevent capture or annihilation.

294715°—54——2

The scope of the withdrawal depends mainly on the type of offensive amphibious operation that preceded it.

g. *Theater Components' Participation.* All theater components possess capabilities for tasks which will contribute to the conduct of amphibious operations. Their participation may include any of the following:

(1) Ground forces supply the force which assaults, secures, and occupies the beachhead in the objective area.

(2) The assault craft which are required to move the ground force from the embarkation area to the objective area are supplied by the naval forces. Naval forces also support the operation with submarine operations, minesweeping, underwater demolition teams, and gunfire.

(3) Air forces may engage in counter air, interdiction, reconnaissance, air escort, airlift to include aeromedical evacuation close air support, and helicopter operations and other operations as appropriate.

7. Impact of Mass Destruction Weapons

In World War II the amphibious operation became the requisite opening to most Allied land battles and consequent military victories. The invasion came of age and grew by phenomenal bounds—the sizes of the invading land, naval, and air forces meant the massing of more men and materiel into relatively smaller water and land areas than ever attempted before in the history of war. While such tremendous forward strides were being made along amphibious lines, strides were also being made with weapons destined to change the characteristics of future wars in general, and amphibious operations in particular.

Chapter 2

FUNCTIONS AND FORCES

Section A. FUNCTIONS OF AIR FORCES OPERATING IN CONJUNCTION WITH AMPHIBIOUS OPERATIONS

1. General

Air forces are an entity and must be employed as such. Their greatest attributes are nullified when employed in segments for localized actions. This applies to control of all the air forces in a theater. Centralized control in the theater permits the application of air power in timely and sufficient quantities to those targets which offer the greatest return relative to the theater mission. Because of their mobility, flexibility, and striking power, theater air forces are capable of performing functions that have a profound influence upon amphibious operations. They are not limited by surface boundaries such as shore lines. Whether the total or a portion of the theater air forces participate in conjunction with the amphibious operation depends upon certain factors as discussed in section B of this chapter. In either case the primary and dominant factor contributing to the success of amphibious operations is air power. The proper employment of this power is a continuing and mandatory requisite to the success of ensuing actions of naval and ground forces. Air forces are organized, trained, and equipped to operate in conjunction with any surface operation, including amphibious operations.

2. Counter Air

a. The highest priority function of theater air forces is the obtaining of control of the air through planned air actions against the enemy's aircraft, bases, personnel, and related industries. These attacks are carried out against the enemy in the air and on the ground. Provision must be made to coordinate those theater and heartland actions that have the common objective of air superiority. The primary objective of the air forces participating in conjunction with the amphibious operation must be to gain and maintain absolute air control in the embarkation, movement, and landing areas of the ground and sea forces and in the base areas of the participating air forces. The conduct of an amphibious operation is not feasible unless the threat of an effective enemy air attack is removed. The enemy's capability of employing mass destruction weapons dictates that air superiority must be virtually absolute before an amphibious operation should be undertaken. Ground and naval force tactics such as dispersion, use of helicopters or high speed vessels, and deployment during darkness may make the amphibious force less vulnerable but do not lessen the requirement for air superiority.

b. Irrespective of the physical characteristics of the theater, the defense of the forward and rear zones is an integrated action and control facilities are so constituted to form a continuous air defense throughout the theater. The theater air commander has the responsibility for air defense of the entire theater and all forces having a primary capability for the accomplishment of this task are placed under his operational control.

3. Interdiction

a. Large-scale amphibious operations are difficult to conduct and their success is in doubt unless the attacking forces are able to strike the enemy at his weakest air, ground, and naval defensive points, or can reduce the effectiveness of his deployed military forces. Air forces have the capability of penetrating the enemy's defenses and attacking both the deployed forces and the lines of communication into the defended areas. The object of interdiction is the reduction of the military capability and effectiveness of the enemy's deployed combat forces and preventing the reinforcement of these forces. The effects sought are on the whole of the enemy's forces—air, ground, and naval—opposing the invasion forces. The specific objectives of interdiction may be divided into four categories:

(1) Restriction of movement into, out of, and within the interdicted area.
(2) Destruction or neutralization.
(3) Delay.
(4) Harassment.

b. The specific objectives of interdiction are highly interrelated, and the purpose served by the performance of one objective may be enhanced by the simultaneous or later execution of each of the others. Preassault interdiction operations are concerned with enemy surface forces that are not yet engaged in a surface battle. The main purposes of interdiction operations during this period are to restrict the enemy's freedom of movement into and within the future battle area and to destroy the troops, materiel, fortifications, and communication and transportation facilities in this area. Once the assault is launched the main purpose of interdiction operations is to prohibit the enemy's flow of battle sustenance and communications, thereby keeping the battle area in relative isolation. The attacking surface forces must then engage the enemy forces to insure that the enemy's logistical stocks are rapidly consumed. By forcing the enemy to deplete his deployed materiel and by denying the entry into the battle area of any replacement, the enemy's effectiveness, mobility, and flexibility are greatly reduced. The depletion of the enemy's reserves and the restriction of movement combine to reduce seriously his effectiveness as a surface combat force. The development of the amphibious interdiction program must be in consonance with the overall theater interdiction program.

4. Reconnaissance

The need for reliable, timely, and adequate intelligence information of the enemy's forces, fortifications, dispositions, and movement is continuing and mandatory in a theater of operations. This requirement is likewise a basic one to all amphibious operations. The gathering of sufficient information on the enemy is the forerunner of any amphibious planning and continues to be the major influence during the planning stages. There are many sources of intelligence information that form the estimate of the enemy situation. The major and most reliable source of intelligence information and one which is of utmost importance to all forces is air reconnaissance. In many instances, air reconnaissance is the only means of obtaining information on the enemy's disposition and movement, weather and terrain, fortifications and installations—all of which information is required to conduct successful combat operations. Air reconnaissance provides vital information to all the amphibious forces and is instrumental in the selection of the future beachhead and battle areas. This function must not be confined to the participating air forces, but must be complemented by all air forces and other intelligence gathering agencies engaged with the common enemy.

5. Close Air Support

a. The emphasis on the function of close air support varies greatly in theater air operations. In amphibious operations the importance of and the requirement for this function also vary greatly. At the outset of an amphibious operation no requirement exists for close air support as the friendly surface forces have not yet engaged the enemy. During this period the theater air effort is placed mainly on the counter air, interdiction, reconnaissance, and diversion tasks. However, the air effort shifts very quickly a few hours prior to the actual assault. The emphasis is then placed on helping the ground forces establish the beachhead. This period is the most critical time for the surface forces in the entire amphibious operation, as the ground forces are without their normal supporting arms and the naval force disposition is semistatic. The entire firepower support of the ground forces must come from either naval gunfire or airweapons. In modern war, air firepower at this crucial stage of the operation is a deciding factor in the amphibious assault. The objective of the pre-H-hour naval and air beachhead bombardment is the complete neutralization and/or destruction of the enemy's forces and fortifications in this area. Proper planning insures that appropriate weapons will be used against all targets.

b. After the ground forces are ashore close air support is still the primary source of firepower against the enemy and continues as such until the ground forces can bring their organic supporting arms into action. During the consolidation and build-up period of the ground forces in the landing area, theater air forces intensify the interdiction campaign in preparation for a breakout by the ground forces. As the ground forces launch their attack to break out from the landing area, air forces may conduct massed close air support actions to facilitate the breakthrough. Once the ground forces have broken through, theater air forces engage targets of opportunity that could retard the exploitation operations of the ground forces.

6. Deception and Diversion

One of the most profitable functions of air forces is that of deception and diversion. The main purpose of this function is to deceive the enemy and make him divert his forces from the intended objective area. Air forces have great influence upon the enemy's battle strategy both before and during the amphibious assault. The enemy's air, ground, and naval forces can be drawn out of their defensive positions in and around the intended landing area by diversionary air operations. These operations are particularly profitable when the amphibious plan dictates that security of the intended landing area will be maintained and that a surprise assault will be conducted. By attacking suitable targets out of the objective area in a planned proportion to those within it, air forces delude the enemy forces into defending areas other than that of the intended landing.

7. Support of Covert Activities

In advance of an amphibious operation, particularly a large amphibious operation, it may be appropriate to sponsor various covert preparatory operations in and behind the objective area. These operations probably will be conducted by partisan or guerrilla forces with assistance and support from friendly military forces. Air forces are particularly adaptable to rendering this assistance and support because they can function with a high degree of security. Such assistance may include bombing attacks coordinated with guerrilla actions, air dropping of personnel and materiel, psychological warfare operations, or other appropriate measures. Conversely, guerrilla forces will be very helpful in assisting downed air crewmen to return to their own forces.

8. Other Air Operations

a. Certain other operations are carried out continuously by the theater air forces. These include airlift, electronic countermeasures, aerial mining, search and rescue, antisubmarine and psychological warfare.

b. Airborne operations are not a direct part of an amphibious operation, although they may be conducted in conjunction with an amphibious assault. The purpose of the airborne assault is to drop troops behind the beachhead areas and in other areas inaccessible by a surface approach in order to strike the enemy's forces at all possible points or to capture certain specified objectives. Air forces provide the airlift for the conduct of the airborne operations.

9. General

In a theater of operations, air forces are organized, trained, and equipped to perform all the necessary air functions required for an amphibious operation. However, at any given time these air forces may be engaged in several different theater missions, that is, they may be participating in conjunction with an amphibious operation and in conjunction with an airborne operation simultaneously.

10. Determination of Force Requirements

A thorough analysis must be made of all pertinent factors to determine the force requirements for the amphibious operation. In order to establish the requirement for theater air effort for an amphibious operation, the following factors must be analyzed:

a. *Objectives of the Operation.* These objectives generally are set forth by higher authority and usually state the geographical region of operations; whether the area is to be raided, captured, or evacuated; whether a lodgement is to be established; and the approximate dates of the operation.

b. *Tasks To Be Performed.* These tasks are developed in the planning phase of the operation and are stated as specific tasks to be performed. These tasks include, but are not limited to, gaining and maintaining air superiority, interdiction of the landing area, close air support for the assault force, aerial mining of certain specified water areas, and destruction of specific fortifications.

c. *Desired Effects.* This analysis is concerned with the selection of targets and the desired effects of air action against these targets. Careful target selection must be made and the required degree of destruction and/or neutralization must be determined. In many instances only after the battle has begun is it possible to determine the results of actions against certain targets. These determinations are tied closely to the continuous flow of timely and accurate intelligence information. Constant evaluation is required to insure that a target is not under or over destroyed.

d. *Pertinent Planning Factors.* The importance of planning factors stems from their development and growth out of prior air actions. Many times these factors, taken from prior wars and adjusted by postwar training results, are the only valid records on which future actions can be predicted. An analysis of planning factors should include aircraft factors (types, speed, range, altitude, operating bases, and so forth), aircraft maintenance rates (incommission, abort, inspections, and so forth), personnel factors (flying hours, types of aircraft flown, years of flying experience, and so forth), weapons effects (lethal radii, overpressures, terrain and weather influences, and so forth), crew factors (circular errors probable, mission flying rate, fatigue, and so forth), and attrition rate (ground losses, airborne losses).

11. Requirements Versus Availabilities

After the air requirements are determined the next step is balancing these needs against the air forces available to the theater of operations. In some instances requirements will exceed availabilities even when the entire theater air effort is committed to the amphibious operation. When this occurs additional forces may be made available from other sources or changes must be made in the required tasks and in the degree to which they are to be performed.

Chapter 3

AIR PLANNING FOR AMPHIBIOUS OPERATIONS

1. General

Air planning for amphibious operations is generally much simpler and freer of complexities than the planning required for the ground and naval forces. This condition is a result of the relatively few overwater and land movements conducted by air forces and the minor differences between normal theater air operations and air operations conducted in conjunction with an amphibious operation. The major differences between theater air planning and planning for the employment of air forces in conjunction with an amphibious operation are that the amphibious operation requires joint planning and that detailed coordination and concurrent planning must be accomplished with the other components. In unilateral theater air operations many of the details need only be coordinated with the headquarters of the theater commander. The requirements for joint, concurrent planning and detailed coordination also make it highly desirable that the appropriate ground, naval, and air commanders establish their respective headquarters in proximity to one another.

2. Initial Concept of the Operation

The initial concept of an amphibious operation may stem from the highest levels of the Government or from various levels of the military establishment. The initial concept may be an idea or thought about invading a certain enemy country or geographical region to keep the efforts of our military forces consistent with a changing tactical situation, or it may be a definite strategic objective of the Nation's war plan. The initial concept is the basis for the initiating directive upon which the detailed joint plans are built. The initiating directive is issued by either the highest military authority, such as the Joint Chiefs of Staff, or by the theater commander. In either case the initiating directive states only in broad terms such basic information as the task to be accomplished, the commander of the operation, the relationship with Allied forces, the approximate date of the operation, and any other general factors which the higher authority feels need specification.

3. Planning Sequence

After receipt of the initiating directive, the first step in the planning sequence is the air commander's concept of the operation and the estimate of the situation, both of which are products of the commander's views and those of his staff and of his subordinate commanders. An outline plan containing the basic decisions, instructions, and directives of the air commander is then sent to his appropriate commanders to provide guidance for the formulation of their respective plans. The air commander will coordinate his plans with the ground and naval component commanders. None of the respective component commanders will have the authority to make an uncoordinated decision.

4. Contents of the Air Plans

The plans for air forces, whether a part of the theater in invasion plan or the separate air forces plan, should contain that information which is essential for the appropriate level of command to carry out its mission. The amount of detail generally will

increase as the echelon of command of command lowers.

5. Planning Considerations

The daily and long range planning for theater air operations normally entails most of the planning considerations which are required in amphibious planning. Planning considerations such as weather and terrain and examples which are ever present. Those planning considerations that are of concern to the air commander and his staff planners include but are not limited to the following:

a. Selection of Objective Area.
b. Security of Objective Area versus Force.
c. Weather.
d. Date and Time of Landing.
e. Duration of Operation.
f. Terrain.
g. Time and Space Factors of Beachhead Areas.
h. Distances to Objective Areas from Air Bases.
i. Targets and Target Selection.
j. Weapons Selection.
k. Areas of Responsibility (antiaircraft artillery, naval gunfire, aircraft, and so forth).

6. Intelligence Planning

The success of an amphibious operation depends vitally upon the collection of adequate, reliable, and timely intelligence information. This collection of information must be planned and directed by the highest command authority to insure proper utilization of collection facilities, correct priorities of effort, complete coverage, security of information, and efficient integration of information. One of the major means of obtaining intelligence information, and the main source of air intelligence, is air reconnaissance. The theater air commander is responsible for planning, allocating, and directing the theater air reconnaissance effort. The requirement for reconnaissance operations begins very early in all amphibious planning; in fact, the intelligence information collected through air reconnaissance will be vital in the final selection of the objective area. The need for adequate reconnaissance is a continuing one and is as important after the selection of the objective area as it is prior to the selection. The critical value of air reconnaissance stems from the fact that in most instances it is the primary means of obtaining reliable, timely information on the enemy's forces, fortifications, and dispositions. The primary functions performed for the amphibious operation by the air reconnaissance and associated units include the following:

a. Procurement of aerial photos for use in preparing maps, charts, photo mosaics, and terrain models of the potential objective areas, shore lines, beach obstacles, and water approaches.

b. Gathering visual, photographic, and electronic information on the nature, location, and disposition of the enemy's forces, fortifications, installations, and potential target systems, such as industries, transportation facilities, and communications. After air and naval operations are initiated against the enemy, damage assessment missions are carried out.

c. Collecting weather data to insure full and timely meteorological coverage on all relevant areas.

7. Logistics Planning

The air commander will determine air logistics requirements. These requirements will include arranging for embarkation, movement, and handling matériel across beaches into supply and equipment distribution points.

8. Communications Planning

The nature of the amphibious operation, together with the air operations conducted in conjunction therewith, dictates that an extensive communication system will be necessary. Planning for these facilities must begin very early in order to attain a fully integrated and a smoothly operating system for the use of all services in the most economical manner. Forces operating together should combine similar agencies when practicable.

Chapter 4

COMMAND AND CONTROL OF AIR FORCES WHEN OPERATING IN CONJUNCTION WITH AMPHIBIOUS OPERATIONS

1. Unified Command

When a theater of operations has been established, a single theater commander is designated to exercise unified command of all forces assigned. The theater commander composes a joint staff with equitable representation of the component forces assigned. The theater commander establishes a component commander for land forces, a component commander for naval forces, and a component commander for air forces. Each of the component commanders is coequal and interdependent. Centralized control is exercised by the theater commander. All air forces (Air Force, Navy/Marine, and Allied) assigned to a theater of operation are controlled and employed by the theater air commander in the furtherance of the missions and objectives set forth for the theater. This command organization insures that centralized direction, decentralized execution, mutual understanding, rapidity of action, and flexibility of employment will be accomplished.

a. *Theater Commander as Direct Commander of Amphibious Operation.* The theater organizational structure is designed with sufficient flexibility to accommodate amphibious operations within normal command channels and existing command relationships. The amphibious operation is conducted by utilizing the same command structure as that used for the conduct of any other theater operation; that is, unified control is vested in the theater commander, and centralized control of air, ground, and sea forces is vested in each of the respective component commanders. Tasks are assigned to the component commanders in accordance with the requirements of the amphibious operation. The theater air commander is responsible for all air actions including naval and marine air participation. Each of the component commanders is responsible for the preparation of his individual plans and for the coordination of those plans with one another. Final responsibility for the success or failure of the amphibious operation rests with the theater commander. The theater air commander may delegate all or part of the air functions affecting an amphibious operation to one or more subordinate air commanders. The responsibilities for and control of all air operations that directly affect the amphibious operation normally are delegated to a subordinate air commander. However, if the amphibious operation is of sufficient magnitude, the theater air commander may retain direct control of all air operations. This air commander at the advanced air headquarters normally has operational control only of the air forces assigned and attached to him. All other aircraft entering his area of responsibility are subject to his coordination and/or direction. In emergencies and subject to limitation imposed by higher authority, the air commander may assume operational control of all air forces entering his area of responsibility. (See appendix A.)

b. *Joint Force.* In certain circumstances a theater commander may elect to establish a special force which will have to conduct an amphibious operation as a step toward accomplishment of its overall objective. If the oper-

ation involves significant elements of the theater force, a joint force will be created and organized in accordance with the principle of unified command, that is, a single unified commander, a joint staff, and component commanders. (See appendix B.)

2. Amphibious Task Force

The ground forces and the naval forces are joined into an amphibious task force for amphibious operations. The amphibious task force will not include any air forces in its organization. The air commander of the air forces participating in conjunction with the operations is always coequal with the amphibious task force commander.

3. Direction and Control of Air Forces

a. In order for the air forces to function effectively in conjunction with an amphibious operation, there must be an effective air control system under the direction of the air commander who is responsible for the control and coordination of all air operations. This air control system must be highly flexible and tailored to fit the size and mission of the air forces involved. Control units may be added to or subtracted from the system to meet changing requirements as the operation progresses.

b. Air operations conducted prior to the movement and assault phases of the amphibious operation will be controlled and directed by the air control system already within the theater. If the theater commander establishes a joint force, necessary elements of the air control system must be provided to the air commander to assure adequate direction of the air effort.

c. During the movement and assault phases of the amphibious operation, the designated air commander or his representative will be aboard the command ship (AGC) and will utilize the control facilities already established afloat to direct the air effort in the objective area. As the assault proceeds, appropriate elements of the control system will progressively move ashore until the entire system is in place and the air commander establishes his headquarters ashore. The normal sequence of the movement ashore is:

(1) Air Control Team (ACT)
(2) Target Director Posts (TDP)
(3) Control and Reporting Posts (CRP)
(4) Control and Reporting Centers (CRC)
(5) Air Control Center (ACC)

The air commander then establishes his operations center ashore with appropriate liaison officers from the surface forces present in the center to assure the necessary coordination of the air and surface effort.

Chapter 5

AIR OPERATIONS IN CONJUNCTION WITH AMPHIBIOUS OPERATIONS

1. Pattern of Air Operations

An amphibious operation is complex in nature and bears many of the characteristics of an airborne operation. An outstanding characteristic of the amphibious operation is the very high degree of interdependency on one another by the participating components. Relative to the amphibious operation, air operations will fall into three phases. No specific lines of demarcation will be discernible between these phases.

a. The first phase starts prior to the time detailed planning begins for the amphibious operation. The air tasks most involved in this first phase are counter air, interdiction, reconnaissance, and psychological warfare operations. The selection of specific times, beaches, routes, and other tactics comes into play during this phase. During this phase the landing area must be softened, interdicted, and reconnoitered in detail, but deception must be artfully practiced to delude and possibly divert the enemy. The utmost care must be exercised to preserve the security of the intended time and location of the assault as long as possible.

b. The second phase may be considered to begin when the amphibious force begins its movement. Air operations are keyed to assist the amphibious force in every possible manner toward successful completion of the assault and attainment of the objectives. During this period, the air control system usually will be centered in a properly equipped ship. Consistent with the magnitude and significance of the amphibious operation, one or more standby ships will be available for immediate emergency use. The air tasks primary to this phase are counter air, interdiction, close support, antisubmarine, airlift, reconnaissance, search and rescue, and psychological warfare operations.

c. The third phase begins after the ground force is reasonably secure on the beach with logistical organic supporting arms in place and functioning. During this phase the movement of the air control system will be completed from ship onto the shore. Additionally, air operations conducted in conjunction with the amphibious operation gradually diminish and air effort is adjusted to meet the needs of subsequent operations.

d. The air tasks relevant to amphibious operations will be discussed in subsequent paragraphs and related to the three phases set forth above.

2. Counter Air Operations

Counter air operations include air defense operations as well as offensive air operations against enemy air power.

a. In the first phase, air operations will be oriented toward gaining theater air superiority. Attainment of air superiority will enable the air forces to perform other tasks in a more acceptable manner. It also will provide the naval and land forces with the freedom of action that the theater commander will require for completion of his mission. Counter air effort will begin pointing much more intensely toward a high degree of air superiority in the general area of the intended amphibious operation. Localized air superiority cannot be maintained, and, therefore, does not provide the necessary security for theater operations on a sustained basis. Extreme caution must be

exercised in all plans and operations not to compromise the security of the time and location of the intended amphibious operation. Counter air operations should be fitted to an overall plan of deluding the enemy as to the forthcoming amphibious operation, as to its time, and as to its location.

b. When the air forces enter the second phase, an acceptable degree of theater air superiority must already have been attained if success in the amphibious operation is to be expected. Therefore, the forces may place more emphasis on the passive role of air defense in the embarkation, movement, and assault area. In no way, however, should it be interpreted that aggressive counter air operations are to be neglected during this phase. Enemy aircraft must continue to be destroyed as close to their bases as possible and enemy air bases must be kept in a state of neutralization.

c. During the third phase when the ground force has attained its initial objectives and resumes a degree of independence, air operations adjust to meet the needs of subsequent operations.

3. Interdiction by Air Operations

a. In the first phase, a landing area will have been selected and interdiction activities will enter a period of rising intensity over a gradually shrinking area. In order to preserve the security of the landing place and time, planning must be very carefully executed. In the early stages of this phase, interdiction targets selected will be relatively remote from the landing site and will be of any character that will destroy or impede the enemy's flow of men, matériel and communications. As the perimeter shrinks, specific key targets, vital to the friendly ground force and selected through joint planning, may have to be left unmolested. In final stages of the phase when the perimeter gets relatively close to the landing site and D-day is near, targets for the most part will be restricted to men and materiel. In the last possible days and hours, after an irrevocable decision has been made as to D-day and H-hour, interdiction air operations will cut all vital roads, railroads, bridges, and communication facilities to isolate as effectively as possible the area immediate to the landing site. Postponement of these operations to the latest possible time aids in the preservation of security and partially nullifies the enemy's recuperative and reinforcement capabilities. During this phase it is also very likely that air minelaying and air antisubmarine operations may be required as a part of the overall interdiction operation.

b. In the second phase, air interdiction operations initially will be centered around the lodgement area. Then interdiction operations will begin expanding away from the lodgement area. A sizeable portion of the effort will be devoted to maintaining the neutralization of previously interdicted targets. The remainder will be devoted to hampering the enemy's communications and restricting his flow of men and matériel into and within the ground battle area. A continuing requirement may exist for minelaying and antisubmarine operations relative to the amphibious operation.

c. In the third phase, air interdiction program will adjust to meet the needs of subsequent operations.

4. Reconnaissance Operations

During normal theater air operations, reconnaissance activity and counter air activity linked together will supply to the theater commander intelligence information concerning the desirability and feasibility of an amphibious operation.

a. In the first phase, reconnaissance operations will become more detailed with reference to the impending amphibious operation. If delusion of the enemy as to the amphibious operation and its time and location is desirable, and it usually will be, great care must be exercised to maintain security. To insure the selection of a proper time and location for the amphibious operation and to plan adequately for its execution, all types of reconnaissance—visual, photographic, and electronic—will be necessary. Vital information as to surf, tides, ocean floor configuration and slope, beach configuration and slope, soil texture, enemy defenses, lines of communication, road nets, enemy order of battle, inland terrain, weather data, and enemy logistical facilities usually will be obtainable through air reconnaissance operations.

b. In the second phase and third phase, reconnaissance operations will become much more closely linked to the operations of the ground force. Reconnaissance operations will keep the forces apprised of moment-to-moment and day-to-day changes in the enemy surface order of battle and air order of battle. Spot reports by radio will be in order for certain high priority intelligence information gleaned by reconnaissance crews. Less urgent information will be transmitted by flash report to interested agencies after crews are debriefed and photographs receive first phase interpretation.

5. Close Air Support Operations

In the early stages of the assault the ground force is extremely vulnerable because it is forced to be without its normal organic supporting arms. Naval gunfire and aircraft on close air support missions provide the needed fire.

a. In the first phase of air operations, there is no requirement for close air support.

b. The greatest requirement for close air support will be generated during the second phase. Operations will be needed just in advance of the assault to reduce the resistance to the landing and ease the progress of the ground force once it is ashore. Once ashore, the requirements of the ground force for close air support will vary in intensity, in time, and in place. The entire control system must be tuned to utmost flexibility. Only in this manner can the great flexibility of air power be exploited in providing the proper mass of fire at the proper place and at the proper time. Only through the most efficient control system can the ground force be assured an acceptable degree of safety during close air support operations. It is during the second phase that the greatest requirement for air alert aircraft will be generated.

c. In the third phase, the ground force will have regained a degree of independence by getting into operation its organic supporting arms. Consequently, the requirement for close air support will decrease.

6. Support of Covert Activities

During all phases, covert activity by partisan or guerrilla forces will be very helpful to the operation of friendly military forces. Air forces will assist these forces by air dropping advisers, reinforcements, and materiel as needed. Air psychological warfare operations also will be helpful. Bombing attacks will be coordinated with guerrilla activity.

7. Airlift Operations

a. In the first phase, airlift may be used extensively in assembling men and materiel in the embarkation area.

b. In the second phase, airlift operations will be extensive. Airborne forces may be placed either on the beaches or in interior areas in conjunction with the amphibious forces. Air drop may be used to supplement the normal logistical support. As consolidation and advance of the ground force progresses, air bases will be captured and new air strips will be built. A more efficient airlift operation becomes feasible because men and materiel can be air landed; many items are not susceptible to air drop. The aircraft used for air landing will carry pay loads on the return flight. Return loads can consist of evacuees, materiel being returned for repair or reclamation, couriers, and mail.

c. In the third phase, scheduled airlift operations into the necessary bases will be established and the entire airlift operation adjusted to meet the needs of subsequent operations.

8. Search and Rescue Operations

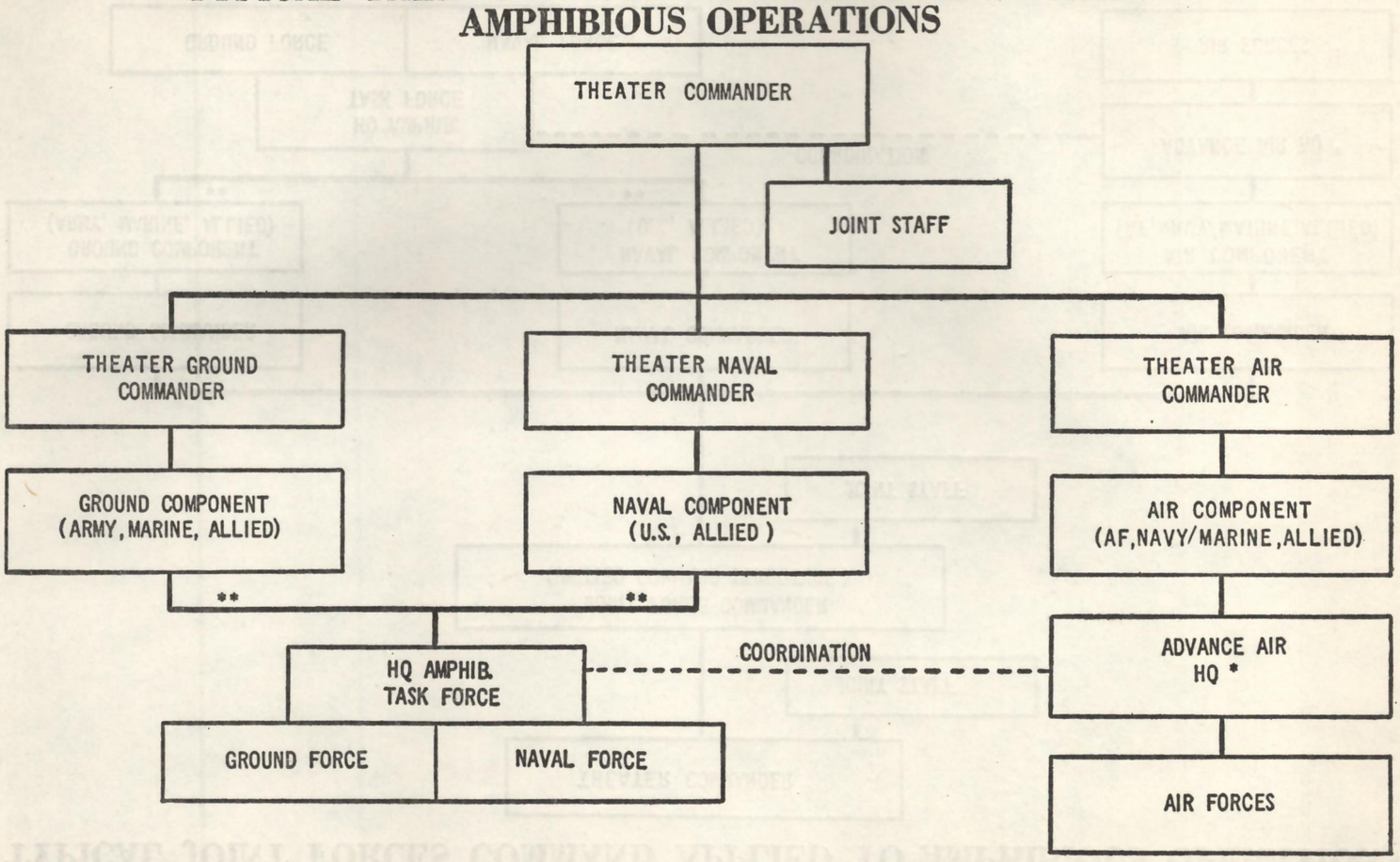
Forces assigned to perform these operations will have the capability of locating and rescuing personnel who may become stranded in enemy land areas, front line areas, and water areas. These forces also will have a limited capability for recovery of critical materiel.

9. Psychological Warfare Operations

Air forces participate in psychological warfare operations at the direction of the theater commander. Such operations may include leaflet drops, airborne loudspeaker operations, or forewarning enemy troops and civilians of air attacks.

Appendix A

TYPICAL THEATER COMMAND STRUCTURE APPLIED TO AMPHIBIOUS OPERATIONS

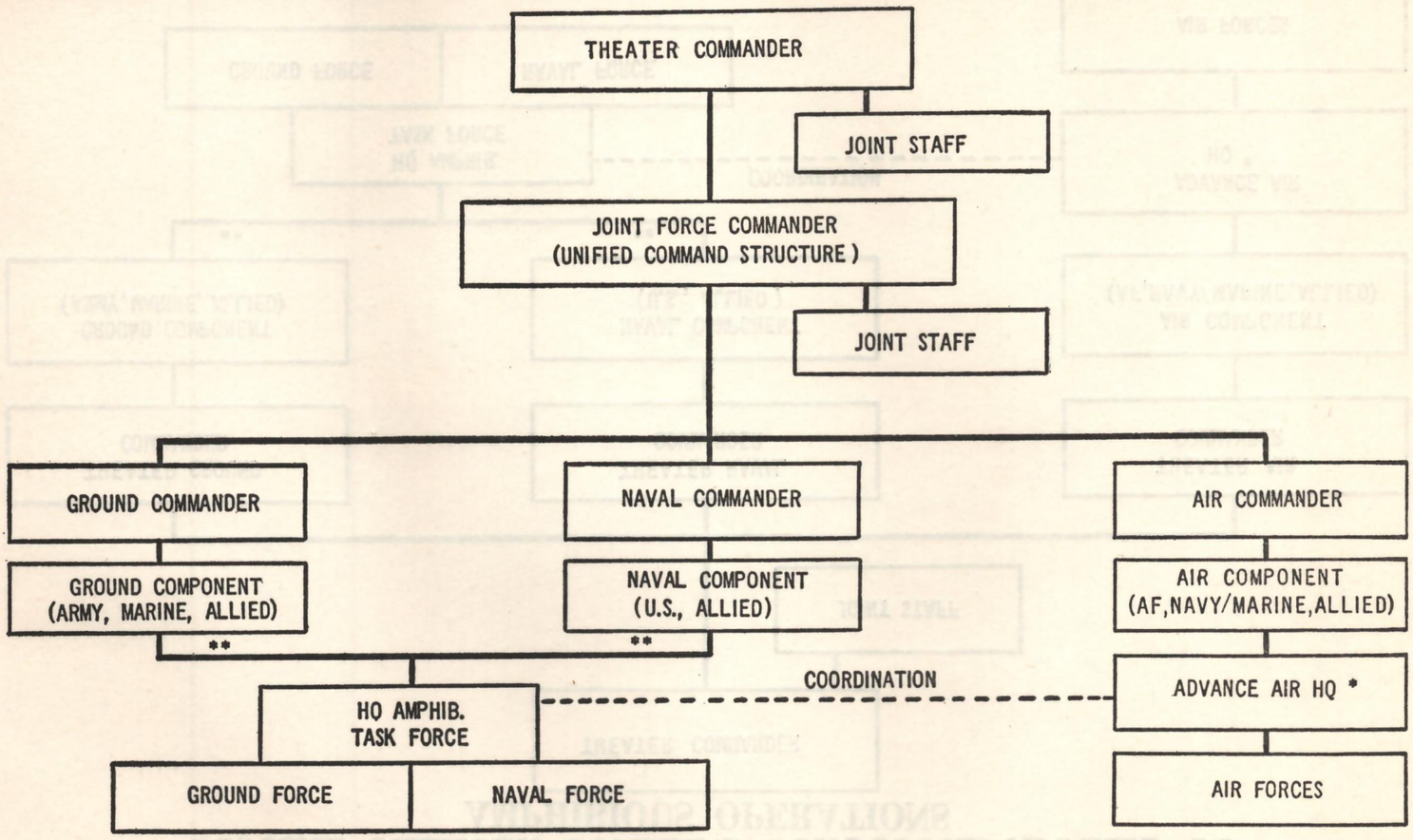


*Commander, Advance Air Hq (AF, Navy/Marine, or Allied) is located on board the command ship and he is the commander who has been delegated the direct responsibility for air operations in conjunction with the amphibious operation.

**These two command lines are not simultaneous but are consecutive.

Appendix B

TYPICAL JOINT FORCES COMMAND APPLIED TO AMPHIBIOUS OPERATIONS



*Commander, Advanced Air Hq (AF, Navy/Marine, or Allied), is located on board the command ship and he is the air commander who has been delegated the direct responsibility for air operations in conjunction with the amphibious operation.

**These two command lines are not simultaneous but are consecutive.

U. S. GOVERNMENT PRINTING OFFICE: 1954